

Notice of Allowability

Application No.

10/717,568

Examiner

Ben Lewis

Applicant(s)

MIYAZAKI ET AL.

Art Unit

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Applicants' Remarks/Arguments submitted on 9/18/07.
2. ☒ The allowed claim(s) is/are 1-6, 11 and 14.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

DETAILED ACTION

Examiners's Amendment

An examiner's amendment on the record appears below. Should changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Collin Harris on December 28th, 2007. The application has been amended as Follows:

IN THE CLAIMS

Cancel Claims 7-10, 12-13 and 15-16.

Claim 1

1. (Currently Amended) A mixing tank for a fuel cell, comprising:
a container housing fuel for the fuel cell;
an absorbent member housed in the container, the absorbent member

having a space; wherein the space is substantially enclosed by the absorbent member;

an inlet flow path interconnecting the fuel cell and the container so as to conduct an exhaust from the fuel cell to the container and admix the exhaust with the fuel to form a mixture absorbed in the absorbent member;

an exhaust flow path interconnecting the space and an outside of the mixing tank so as to conduct gas in the space to the outside; and

an outlet flow path interconnecting the absorbent member and the fuel cell so as to conduct the mixture absorbed in the absorbent member to the fuel cell.

Claim 14

14. (Currently Amended) A fuel cell system comprising:

a fuel cell having an anode, a cathode and an electrolyte membrane put therebetween;

a container housing fuel for the fuel cell;

an absorbent member housed in the container, the absorbent member having a cavity therein; and wherein the cavity is substantially enclosed by the absorbent member;

an inlet flow path interconnecting the fuel cell and the container so as to conduct an exhaust from the fuel cell to the container and admix the exhaust with the fuel to form a mixture absorbed in the absorbent member;

an exhaust flow path interconnecting the cavity and an outside of the mixing tank so as to conduct gas in the cavity to the outside;

an outlet flow path interconnecting the absorbent member and the fuel cell so as to conduct the mixture absorbed in the absorbent member to the fuel cell; and an air supply unit supplying air to the cathode.

REASONS FOR ALLOWANCE

Claims 1-6, 11 and 14 are allowed.

The prior art does not teach or suggest a mixing tank including all of the claimed features. The most pertinent art includes Shimizu et al. (U.S. Patent No. 4,562,123) and Wilson et al. (U.S. Patent No. 6,808,838 B1).

Both the Shimizu et al and Wilson do not teach or suggest:

an absorbent member housed in the container, the
absorbent member having a space/^{or cavity 11/18/08}~~space~~, and wherein the cavity or space is substantially enclosed by the absorbent member,

an inlet flow path interconnecting the fuel cell and the container so as to conduct an exhaust from the fuel cell to the container and admix the exhaust with the fuel to form a mixture absorbed in the absorbent member;

an exhaust flow path interconnecting the space or cavity and an outside of the mixing tank so as to conduct gas in the space or cavity to the outside; and

an outlet flow path interconnecting the absorbent member and the fuel cell so as to conduct the mixture absorbed in the absorbent member to the fuel cell.

For these reasons, the claims are allowed over the prior art. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ben Lewis whose telephone number is 571-272-6481. The examiner can normally be reached on 8:30am - 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ben Lewis

Patent Examiner
Art Unit 1795


SUSY TSANG-FOSTER
SUPERVISORY PATENT EXAMINER